

MULTIPLE BRUSH AND CASE INCLUDING SAID BRUSHField of the invention

The invention relates to the field of packaging cosmetic or make-up products typically in powder form, and relates more particularly to means of applying these products, as well as to the field of cases that  
5 include these cosmetic products.

Prior art

Powders intended for make-up are generally packaged in receptacles called "cases".

10 These cases typically include as a means of applying said powder, a powder puff.

Furthermore, people who apply make up at home also often have available make-up brushes, typically in the shape of an artist's paintbrush.

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Problems posed

The problems posed by the means of applying powder according to the prior art take numerous forms:

20 - on the one hand, people using powder wish to be able to have available at all times, even outside the bathroom, different application means such as brushes,

- on the other hand, the traditional powder puff has some drawbacks, both in terms of hands getting dirty, and of its single texture and, consequently the  
25 limited possibilities it gives of obtaining different effects or looks, on the face,

- furthermore, as far as the brushes themselves are concerned, on the one hand, they typically constitute an autonomous accessory independent of the  
30 case, and on the other hand, a number of brushes are

needed if different looks or effects are to be obtained on the face,

- moreover, powder puffs or brushes are typically meant to be applied flat, whereas the face, particularly in the cheekbone area, has a rather angular contour,

- lastly, in the make-up field particularly, it is important for the commercial product offer to be renewed on a regular basis, since novelty often takes precedence over tradition in the mind of the purchaser.

#### Description of the invention

According to the invention, the brush intended to apply, typically onto a support, typically the face, at least one powdered product, typically a compacted make-up powder and/or a blusher, includes a typically rigid mount M, acting as a means of gripping said brush manually, and a means of applying said product integral with said mount including a typically flexible application material, and is characterised in that:

a) said mount M acts as a support to at least two different application means, typically two different tufts T of said application material, with each application means or different tuft  $T_i$  including a foot or base  $B_i$  so as to anchor each application means to said mount M, and a sheaf  $F_i$  including or constituted by said typically flexible application material, each sheaf  $F_i$  emerging from a different portion of said mount M along a different surface  $S_i$  of said mount, each sheaf  $F_i$  defining a lateral envelope  $E_i$  limited at its end by an application surface  $A_i$ , so as typically to allow at least two different applications of said powder onto said support, and in that:

b) said mount forms a typically two-dimensional object, of larger dimension D typically less than 50 mm, and of thickness E typically less than 0.3 D, in such a way that said brush is able to be placed  
 5 typically in a make-up case.

This combination of means allows the problems posed to be resolved.

Indeed, brushes according to the invention are brushes adapted to cases containing said powder. These  
 10 brushes include a mount constituting manual gripping means and a support for at least the two different application means, such that by playing on the shape and/or the nature of these application means, as will be shown particularly in the figures, it is thereby  
 15 possible to resolve the problems posed.

#### Description of the figures

Figures 1a and 1b are three-dimensional views of brushes (1) with only the mount (2) being shown for  
 20 reasons of clarity.

These show a perspective view of said mount (2) typically two-dimensional in form in a plane P, a plane Ps, Ps' perpendicular to the plane P sharing said mount typically in two parts, each including a different  
 25 surface  $S_1$  (or  $S_1$  and  $S_2$  in the case shown in figures 1a and 1b), being the surface of said mount from which said application means emerges.

In these two figures 1a and 1b have been shown the planes P', P'1, P'2 corresponding to these different  
 30 surfaces  $S_1$  and  $S_2$ , the planes P'1, P'2 corresponding to the surfaces  $S_1$  and  $S_2$  respectively.

Figure 1a corresponds to the case where the surfaces  $S_1$  and  $S_2$  are in the same plane  $P'$ , the planes  $P'1$  and  $P'2$  being merged into a single plane  $P'$ .

Figure 1b corresponds to the case where the surfaces  $S_1$  and  $S_2$  are different planes  $P'1$  and  $P'2$  forming between them an angle  $\beta < 180^\circ$ , whereas the case where the planes  $P'1$  and  $P'2$  form between them an angle  $\beta > 180^\circ$  has been shown in dotted lines in figure 1a.

In figure 1b has been shown the plane  $P_p$ , a plane of projection orthogonal to the planes  $P$  and  $P_s$  or  $P's$  on which the application means, or the tufts  $T_i$  - or  $T_1$  and  $T_2$  in the case of two application means, are projected typically in a rectangle with a length  $L_A$  and a width  $l_A$ .

Figures 2a to 2c show a form of the invention corresponding to the one in figure 1a. In this form, the manual grip means (22) merges with the means (23) of anchoring the application means or tufts  $T_i$ .

Figure 2a is a cross-section view of the brush (1) in the plane  $P$ .

Figure 2b is a cross-section view of the brush (1) in the plane  $P's$  along the direction A-A in figure 2a, and parallel to the plane  $P_s$ .

Figure 2c corresponds to a view of the mount (2) in cross-section along the plane  $P$ , according to figure 2a, whereas figure 2d is side view of the same mount (2), from the plane  $P_p$ .

Figures 3a to 3c relate to another form of brush (1) according to the invention wherein the mount (2) includes an arc. In this form, on the one hand, the manual grip means (22) is distinct from means (23) of anchoring the application means or tufts  $T_i$  and on the

other hand, said different surfaces  $S_1$  and  $S_2$  are circular, and not rectangular as in figures 2a to 2d.

Figure 3a is similar to figure 2a.

5 An application surface forming two circle arcs has been shown in dotted lines, as in figure 2a, whereas the application surface forming a single circle arc is a solid line.

Figure 3b is similar to figure 2d.

Figure 3c is similar to figure 2b.

10 Figures 4a and 4b are cross-section views similar to those in figures 2a or 3a, which show other forms of brushes (1) according to the invention, and particularly various forms of mounts (2) for which, as in figure 1b, the surfaces  $S_1$  and  $S_2$  form an angle  $\beta < 180^\circ$ .

20 On figure 4a, on the one hand, the tufts  $T_1$  and  $T_2$  are bonded to the support (2) which is open-work, and on the other hand, the two sheaves  $F_1$  and  $F_2$  are partially intermingled in accordance with a common part and a common application surface.

In figure 4b, each of the tufts  $T_1$  and  $T_2$  includes a foot partly in the cavity of said mount, and partly outside said mount, a foot of this kind also featuring in figure 4a.

25 Figures 5a and 5b are similar to figures 3a and 3b, but with surfaces  $S_1$  and  $S_2$  forming an angle  $\beta < 180^\circ$ .

30 Opposite the brush (1) in figure 5a has been placed a case bottom including two powder pots, shown in cross-section in figure 5c, with a transverse cross-section typically parallel to the cross-section of the application surface of said brush in figure 5a, the two

application surfaces  $A_1$  and  $A_2$  forming between them an angle substantially equal to the angle  $\beta$ .

Figure 6 shows the correspondence, as between the brush in figure 5a and the case bottom in figure 5c, between the cross-section of the application surface of the brush and the transverse cross-section of the corresponding powder product, the two cross-sections being plane in the case of figure 6.

Figures 7a and 7b are views, similar to figure 2a, showing the case of a brush including two different materials to form said tufts  $T_1$  and  $T_2$ , denoted PL1 and PL2, forming - by way of example - two contiguous surfaces  $S_1$  and  $S_2$  with a transverse line of separation in figure 7a and an oblique one in figure 7b.

Figure 8a shows an open case, seen in front perspective, wherein the bottom includes a powder block with a line of demarcation LD (90) delimiting two different powders PC1 and PC2, said line being shown as a solid line combined with a double arrow indicating the direction of movement of said brush.

Another line (90) in dots has been shown typically at  $90^\circ$  from the previous one.

Figure 8b is a diagrammatic view of a case bottom (6) including two pots or two blocks of powder PC1 and PC2 that are different but typically contiguous.

Figures 8c and 8d show cross-sections of these blocks in a vertical plane B-B in figure 8b, these blocks forming an angle  $\gamma > 180^\circ$  in the case of figure 8c and an angle  $\gamma < 180^\circ$  in the case of figure 8d, the angle  $\gamma$  being equal to  $180^\circ$  in the case of figure 6.

#### Detailed description of the invention

According to the invention, said mount M (2) is able to form an object of maximum thickness E typically less than 10 mm, each sheaf  $F_i$  having a length  $L_F$  from 0.5.D to 1.5.D, said length  $L_F$  being the distance  
 5 between said mount M and said application surface  $A_i$ . Thus, said brush forms a typically flat object able to be placed in a case, the tufts being able to be compressed so as to have a thickness at most equal to that of the mount.

10 See for example figure 1b.

As shown in most of the figures, said mount M (2) may include two different tufts  $T_1$  and  $T_2$ , each tuft  $T_1$  (3, 4) and  $T_2$  (3', 4') forming a sheaf  $F_1$  (31, 41) and  $F_2$  (31', 41') respectively emerging from said mount M  
 15 along two different surfaces  $S_1$  (20) and  $S_2$  (20') respectively.

These different surfaces correspond to portions of the envelope surface of said mount, from which the tufts  $T_1$  (3, 4) and  $T_2$  (3', 4') emerge. They have been  
 20 shown in figures 1a and 1b in hatched lines, the tufts not having been shown in these figures.

As shown in figures 1a, 1b, 2d, 5b and 7a, said different surfaces  $S_1$  (20) and  $S_2$  (20') may be longitudinal, typically rectangular or oblong surfaces,  
 25 of length or larger dimension L typically from 5 to 20 mm, and of width or smaller dimension l from 1 to 5 mm, with  $L/l$  from 2 to 10, so as to form two typically longitudinal sheaves  $F_1$  and  $F_2$  typically forming two flexible curtains.

30 However, as shown in figures 3a to 3c, said surfaces  $S_1$  (20) and  $S_2$  (20') may typically be circular, or semi-circular surfaces, of diameter d typically from 2 to 10 mm.

As shown in figures 7a and 7b, said different surfaces  $S_1$  (20) and  $S_2$  (20') may be contiguous, on one side or at a common point.

However, as shown in figures 2a and 2c, said  
 5 different surfaces  $S_1$  (20) and  $S_2$  (20') may be spaced apart by a distance  $e$ , measured from edge to edge, or by a distance  $e'$ , measured from centre to centre, said distance  $e$  typically being less than  $0.4.D$ , and  $e'$  typically from  $0.2.D$  to  $0.8.D$ .

10 As shown in figures 2a and 2b, and in figures 3a and 3b, said sheaves  $F_1$  (31, 31', 41, 41') may have a maximum angle of aperture of  $\alpha > 0$  and possibly a minimum angle of aperture  $\alpha' > 0$ , with  $\alpha' < \alpha$ . These angles are taken relative to the median plane of the sheaves. It  
 15 is possible to have an angle  $\alpha$ , typically from  $15^\circ$  to  $45^\circ$  and an angle  $\alpha'$  typically from  $5^\circ$  to  $30^\circ$ .

As shown in figures 2a and 2b, said surfaces  $S_1$  (20) and  $S_2$  (20') may be non-contiguous and be spaced apart by a distance  $e$  such that said corresponding  
 20 application surfaces  $A_1$  (32, 42) and  $A_2$  (32', 42') are contiguous, given said angle of aperture  $\alpha$ , said distances  $e$  or  $e'$  and said length  $L_F$ .

The application surfaces may be contiguous to a more or less significant degree, namely just  
 25 contiguous, as shown in figure 5c, slightly contiguous as shown in figure 3a, and largely contiguous as shown in figure 4a.

But, as shown for example in figure 4b, said surfaces  $S_1$  (20) and  $S_2$  (20') may be non-contiguous and  
 30 be spaced apart by a distance  $e$  such that said corresponding application surfaces  $A_1$  (32, 42) and  $A_2$



(32', 42') are non-contiguous, given said angle of aperture  $\alpha$ , said distances  $e$  or  $e'$  and said length  $L_F$ .

According to a form of mount (2) shown in figures 1a and 2a, said surfaces  $S_1$  (20) and  $S_2$  (20') may be in one and the same plane  $P'$  which is typically perpendicular to said medium plane  $P$ .

According to a form of mount (2) shown in figures 1, 4b and 5a, said surfaces  $S_1$  (20) and  $S_2$  (20') may be located in different planes  $P'_1$  and  $P'_2$  respectively, typically perpendicular to said medium plane  $P$ , and forming between them an angle  $\beta$ , typically equal to  $150^\circ \pm 25^\circ$ , in such a way that, with said corresponding application surfaces  $A_1$  (32, 42) and  $A_2$  (32', 42') forming between them an angle typically close to said angle  $\beta$ , said application surfaces may conform in shape to the outlines and contours of the face, typically the cheekbones of the face.

According to the invention, at least one of the planes  $P'_1$  and  $P'_2$  is able not to be perpendicular to said medium plane  $P$ . Indeed, it is not necessary for the planes  $P'_1$  and  $P'_2$  which include the surfaces  $S_1$  (20) and  $S_2$  (20') to be perpendicular to the medium plane  $P$  of the mount (2). These planes may indeed form with said plane  $P$  an angle slightly different from  $90^\circ$ .

As shown in figures 1a, 1b and 2a, said different tufts  $T_1$  (3, 4) and  $T_2$  (3', 4') may be geometrically symmetrical relative to a plane of symmetry  $P_s$  perpendicular to said plane  $P$ .

However, given the nature of the invention, it is possible to have tufts that are dissymmetrical by their shape and/or their volume.

As shown diagrammatically and partially in figure 2a, said different tufts  $T_1$  (3, 4) and  $T_2$  (3', 4') may be tufts of hair (4, 4'). These tufts of hair may be constituted by hairs PL of the same nature or texture.

5        However, said different tufts  $T_1$  (3, 4) and  $T_2$  (3', 4') may be tufts of hairs (4, 4') constituted by hairs of different nature or texture PL1 and PL2, so as to be able to form two applications, that are different by texture or grain, of one and the same product or of  
10   two products.

According to the invention, said different tufts  $T_1$  (3, 4) and  $T_2$  (3', 4') may be formed by one and the same fibrous or alveolar material able to provide a transfer of said product, or by two different fibrous  
15   or alveolar materials able to provide a transfer of said product.

As shown in figure 1b, said application surfaces  $A_1$  (32, 42) and  $A_2$  (32', 42') may project themselves orthogonally over a plane  $P_p$  perpendicular to said  
20   plane  $P_s$  typically according to a rectangle  $S_A$  of length  $L_A$  and of width  $l_A$ , each application surface (32, 32', 42, 42') projecting itself typically along a length  $L_A/2$ , in the case of contiguous application surfaces  $A_1$  and  $A_2$ , with  $L_A$  typically less than D and  
25   with  $l_A$  typically less than 3.E.

According to one form of the invention, and as shown in figures 2a to 2c, 3a, 3c, 4b, 5a, 6, said mount (2) may include as many different cavities  $C_i$  (24, 24') as tufts  $T_i$ , said foot or base  $B_i$  of each  
30   tuft  $T_i$  being anchored into said cavity  $C_i$ .

According to another form of the invention shown in figure 4a, said foot or base  $B_i$  of each tuft  $T_i$  may be anchored, typically by bonding, to said surface  $S_i$

of said mount (2), the mount (2) not including any cavities.

It is also possible to anchor the tufts to the mount by snapping them on.

5        Another subject of the invention is constituted by a case (5) for dispensing product typically in the form of compacted powder (9) including a brush (1) according to the invention, said brush (1) forming a means of application of said product and being of dimensions  
10 adapted to those of said case, so as to be able to be placed in said closed case (5) between a bottom (6) of said case fitted with at least one pot (8) containing said compacted powder (9) and a lid (7) of said case typically including a mirror (70).

15        Engagement between the typically two-dimensional brush (1) and the case (5) has been shown in figure 4b.

As shown in figures 6 and 8a, this case (5) may include a single pot (8) containing a single compacted product PC and in which the compacted product has a  
20 contact surface  $S_c$  with a dimension or width  $L_c$  such that the ratio  $L_A/L_c$  is close to 1 and typically between 0.7 and 1.1, so as to apply the same product using two different tufts  $T_1$  and  $T_2$  as shown for example in figure 6.

25        But, as shown for example in figure 8a, said compacted product (9) includes two different compacted products  $PC_1$  and  $PC_2$  typically forming a single block of compacted powder, and separated along a typically straight line of demarcation LD, so that, said brush  
30 being applied against said compacted product and said central common area ZC of said tufts along said line of demarcation LD, it is thus possible to take up

simultaneously two different products typically in a single movement.

Each of these two different compacted products  $PC_1$  and  $PC_2$  may form a block placed in one and the same  
 5 pot, as shown in figures 8b to 8d, or in two pots side by side along a line of demarcation  $LD'$ , as shown in figure 5c, in such a way that the two blocks are typically at the most 2 mm apart.

As shown in figure 8b or in figure 6, said  
 10 compacted products  $PC_1$  and  $PC_2$  may form a total contact surface  $S_c$  with an average dimension  $L_c$ , taken perpendicularly to said line of demarcation  $LD$  or  $LD'$  comparable to a straight portion, such that the ratio  $L_A/L_c$  is close to 1 and typically between 0.7 and 1.1,  
 15 so as to have a contact surface adapted to said brush (1).

As shown in figures 8c and 8d, said contact surface  $S_c$  may form an angle  $\gamma$  typically close to  $180^\circ \pm 40^\circ$  or possibly  $360^\circ - \beta$ , in such a way that said  
 20 brush, according to the geometric shape of said application surface  $A_1$  or  $A_2$  is able to take up powder from said two products uniformly by passing said sheaves of hair  $F_1$  and  $F_2$  over said contact surface  $S_c$ .

## 25 Exemplary embodiments

The figures constitute exemplary embodiments.

Brushes (1) were manufactured with mounts (2) as in figures 1a to 2d for rectangular cases of 60 mm x 80 mm.

30 Brushes (1) were manufactured with mounts (2) as in figures 3a to 6 for round cases of 60 mm diameter as shown in figure 8a.

The mounts (2) were formed by moulding.

Different types of compressed powder blocks were formed as shown in figures 5c, 6, 8a to 8d.

5 The large dimension D of the mount (2) was taken as equal to 40 mm, and the thickness E as equal to 8 mm.

Tufts of hair were formed that corresponded substantially to what is shown in the figures. These tufts were anchored to the mounts by anchoring the foot of the tuft into a cavity in the mount, or by bonding the foot onto the mount in the case of the brush in figure 4a:

10 The cases fitted with brushes and blocks of powder according to the invention were tested by a group of users, comparatively to conventional cases fitted with a puff as a means of applying the powder.

#### Advantages of the invention

Brushes according to the invention and cases fitted with these brushes were acknowledged by the user group as resolving all the problems posed by powder application means of the prior art.

Indeed, on the one hand, the users considered using a brush to be more appropriate than using a puff for make-up purposes.

25 On the other hand, it is much less messy to handle a brush than a puff.

Furthermore, the brushes according to the invention, particularly through their different texture depending on the tuft considered, allow different effects or looks to be obtained on the face.

30 Moreover, given the possibility of having brushes with two application surfaces forming an angle between them, they are adapted to applying make-up to the face,

particularly to the cheekbone area, which has a somewhat angular contour.

Furthermore, as can be seen from the different brush forms shown in the figures, the invention allows  
 5 a wide variety of new shapes and functions to be offered.

#### List of reference numbers

	Brush .....	1
10	Mount .....	2
	Different surface $S_i$ .....	20, 20'
	Line/Point of separation .....	21
	Manual grip means .....	22
	Means of anchoring 3, 3', 4, 4' .....	23
15	Different cavities .....	24, 24'
	Bonding surface .....	25, 25'
	Application material tuft .....	3, 3'
	Foot or base $B_i$ integral with 2 .....	30, 30'
	Sheaf $F_i$ .....	31, 31'
20	Application surface $A_i$ .....	32, 32'
	Lateral envelope $E_i$ .....	33, 33'
	Sheaf foot $F_i$ .....	34, 34'
	Tuft of hairs $T_i$ .....	4, 4'
	Foot or base $B_i$ .....	40, 40'
25	Sheaf $F_i$ .....	41, 41'
	Application surface $A_i$ .....	42, 42'
	Lateral envelope $E_i$ .....	43, 43'
	Case .....	5
	Bottom .....	6
30	Lid .....	7
	Pot .....	8
	Powdered product .....	9, 9'
	Line of separation between 9 and 9' .....	90